Aberdeen Harbour Expansion Project

Construction Environmental Management Document

11th May 2017

DRAGADOS

Contents

Chapter 9
Habitat Management Plan and Otter Protection Plan

Contents

Appendices

9 Habitat Management Plan and Otter Protection Plan

9.1 Introduction

The Habitat Management Plan (HMP) and Otter Protection Plan (OPP) have been prepared to manage and protect the surrounding terrestrial habitats, ecological features and otter (*Lutra lutra*) during the construction phase of the Aberdeen Harbour Expansion Project (AHEP). For details of management and mitigation relating to ecological receptors in the marine environment refer to the Marine Mammal Mitigation Plan (MMMP), the Fish Species Protection Plan (FSPP) and the Marine Invasive Non-Native Species (MINNS) and Biosecurity Management Plan (BsP). These, along with other management plans form the AHEP Construction Environmental Management Document (CEMD). Details of how management and mitigation proposals made in this document link to other areas of the CEMD are included in Appendix D.

The requirement to produce a HMP and OPP are listed under Condition 3.2.4 of both the Marine Construction and Marine Dredging and Disposal Licence, and Schedule 2 of the Harbour Revision Order 2016. This document has been produced to fulfil these requirements.

9.2 Roles, Responsibilities and Cross-Referencing

The following individuals are responsible for ensuring that the requirements of the Habitat Protection Plan and Otter Protection Plan are implemented at the AHEP site. See Appendix D for more detailed descriptions of responsibilities and cross-referencing to other CEMDs.

Table 9.1: Roles and Responsibilities

Job Title	Name	Responsibilities
Environmental Clerk of Works (ECoW)	Emma Bias	To oversee and monitor the implementation of management and mitigation for the protection of habitats and species within and adjacent to the AHEP works
Environmental Manager	Craig Hynd	Support the ECoW with the identification and conservation of protected species and habitats.
Construction Manager	Jose Enrique Perez	Support the ECoW with the translocation of orchid species.
Shift Manager	Dependent on Rota	Responsible for initiating the emergency response procedures in the event of an out of hours incident.
Aberdeen City Council Ranger and Environmental Services Team	N/A	Participate in consultation with the ECoW to co-ordinate maintenance and management of key features and habitats.

9.3 Information Sources

The HMP has been informed by information outlined in the following documents:

- Aberdeen Harbour Expansion Project Environmental Statement (ES)[1];
- ES Additional Environmental Information Report[2]; and
- Biocensus Ecology Update[3].

9.4 Ecological Baseline

A summary of the terrestrial ecological baseline conditions is provided in this section.

9.4.1 Designated Sites

The AHEP development area is located approximately 500m south of the River Dee Special Area of Conservation (SAC). This SAC is designated for following Annex II species:

- Atlantic salmon (*Salmo salar*);
- European otter; and
- Freshwater pearl mussel (*Margaritifera margaritifera*).

Within the AHEP development area, the south west aspect of Nigg Bay is designated a Site of Special Scientific Interest (SSSI). This SSSI is designated for geological features namely:

- Quaternary geology and geomorphology.

The Nigg Bay SSSI Management Plan has been created to ensure long term impacts on Nigg Bay SSSI are minimised through mitigation measures such as restricted access areas and site drainage.

The Balnagask to Cove Local Nature Conservation Site (LNCS) is located within the AHEP development area. The LNCS stretches from north of Walker Park, running approximately 5 miles along the coast line to the community of Cove. The Balnagask to Cove LNCS contains coastal cliffs and caves, shingle beaches, coastal and neutral grasslands, gorse shrub as well as European dry health and coastal heath habitats[4].

The location of the SAC, SSSI and LNCS are shown in Appendix A.

[1] Waterman and Fugro (2015), Environmental Statement
[2] Aberdeen Harbour Expansion Project (April 2016), Additional Environmental Information Report.
[3] Biocensus (2016) Aberdeen Harbour Expansion Project – Ecology Update Survey Report
[4] Aberdeen City Council (2013). Aberdeen City Local Nature Conservation Sites. Balnagask to Cove. http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?lID=54536&sID=6619. Accessed 27/03/2017

9.4.2 Habitats and Notable Species

Ecological surveys were undertaken as part of the ES[1] and by Biocensus[3] of all habitats within the AHEP development area. The following habitats and evidence of the following notable species were recorded:

- Habitats:
  - Scrub;
  - Dry dwarf shrub heath;
  - Shingle/gravel above high-tide mark;
  - Boulders/rock above high-tide mark;
  - Strandline vegetation;
  - Maritime hard cliff;
  - Coastal heath;
  - Semi-improved neutral grassland;
  - Amenity grassland; and
  - Buildings and hardstanding.
- Flora:
  - Curved sedge (*Carex maritima*);
  - Sea pea (*Lathyrus japonicus*);
  - Oyster plant (*Mertensia maritima*); and
  - Northern marsh orchid (*Dactylorhiza purpurella*).
- Birds:
  - Six Schedule 1/Annex 1 species
    - Red-throated diver (*Gavia stellata*) is included within both Annex 1 and Schedule 1;
    - Short-eared owl (*Asio flammeus*), common tern (*Sterna hurindo*) and sandwich tern (*Thalasseus sandvicensis*) are included within Annex 1; and
    - Purple sandpiper (*Calidris maritime*) and common scoter (*Melanitta nigra*) are included within Schedule 1.
  - Thirteen Species of Principal Interest and Scottish Biodiversity List
    - Starling (*Sturnus vulgaris*);
    - House sparrow (*Passer domesticus*);
    - Yellowhammer (*Emberiza citrinella*);
    - Grasshopper warbler (*Locustella naevia*);
    - Linnet (*Carduelis cannabina*);
    - Skylark (*Alauda arvensis*);

  - Dunnock (*Prunella modularis*);
  - Reed bunting (*Emberiza schoeniclus*);
  - Herring gull (*Larus argentatus*);
  - Song thrush (*Turdus philomelos*);
  - Curlew (*Numenius arquata*);
  - Lapwing (*Vanellus vanellus*); and
  - Common scoter (*Melanitta nigra*).
- Further eight species on Scottish Biodiversity List
  - Sandwich tern (*Thalasseus sandvicensis*);
  - Common tern (*Sterna hurindo*);
  - Short-eared owl (*Asio flammeus*);
  - Red-throated diver (*Gavia stellata*);
  - Purple sandpiper (*Calidris maritime*);
  - Kestrel (*Falco tinnunculus*);
  - Black-headed gull (*Larus ridibundus*); and
  - Swift (*Apus apus*).
- Ten Red Listed Birds of Conservation Concern (BoCC)
  - Starling;
  - House sparrow;
  - Yellowhammer;
  - Grasshopper warbler;
  - Linnet;
  - Skylark;
  - Song thrush;
  - Herring gull;
  - Lapwing; and
  - Common scoter.
- Thirty-two Amber Listed BoCC
  - Curlew;
  - Redshank (*Tringa totanus*);
  - Kittiwake (*Rissa tridactyla*);
  - Fulmar (*Fulmarus glacialis*);
  - Swift;
  - Meadow Pipit (*Anthus pratensis*);
  - Willow warbler (*Phylloscopus trochilus*);

  - Dunnock;
  - Reed bunting;
  - Common whitethroat (*Sylvia communis*);
  - Purple sandpiper;
  - Ringed plover (*Charadrius hiaticula*);
  - Shag (*Phalacrocorax aristotelis*);
  - Eider (*Somateria mollissima*);
  - Great black-backed gull (*Larus maritime*);
  - Oystercatcher (*Haematopus ostralegus*);
  - Common tern;
  - Razorbill (*Alca torda*);
  - Guillemot (*Cepphus grille*);
  - Gannet (*Morus bassanus*);
  - Lesser black-backed gull (*Larus fuscus graellsii*);
  - Sandwich tern;
  - Mallard (*Anas platyrhynchos*);
  - Turnstone (*Arenaria interpres*);
  - Common gull (*Larus canus*);
  - Red-throated diver;
  - Short-eared owl;
  - Kestrel;
  - Sand martin (*Riparia riparia*);
  - Barn swallow (*Hirundo rustica*); and
  - Northern wheatear (*Oenanthe oenanthe*).
- Otter
- Reptiles:
  - Common lizard (*Zootoca vivipara*); and
  - Slow worm (*Anguis fragilis*)
- Invertebrates
  - Six Scottish Biodiversity List invertebrate species and two Local Biodiversity Action Plan species are considered relevant to the site[1].
  - Aberdeen City Council (ACC) have recorded black darter dragonfly (*Sympetrum danae*) and emerald damselflies (*Lestes sponsa*)[5] on site.

[5] As per comments received from ACC on 17/03/2017

- Scrub, grassland and heath are among the habitats on site that are suitable for invertebrates.

9.5 Environmental Control Measures

The measures outlined in this report have been developed to mitigate against the potential effects on terrestrial ecological receptors identified within the ES[1] and Ecology Survey Update Report[3]. These have been developed in more detail with Dragados, to best reflect the methods of working and programming of construction activities. Dragados will use these measures to complete risk assessments and method statements. This will provide the appropriate mechanism for the implementation of the construction works on site.

Site management and specific mitigation relating to migratory fish and freshwater pearl mussel are considered in the Fish Species Protection Plan (FSPP) and relating to otter in the Otter Protection Plan [6](OPP). Marine mammals such as dolphins and harbour porpoise are covered under the MMMP.

9.5.1 General

Overall, construction will be carried out in accordance with guidance outlined within the Construction Industry Research and Information Association's (CIRIA) best practice guidance and the Scottish Environment Protection Agency (SEPA) Pollution Prevention Guidelines (PPGs)[7] and Guidance for Pollution Prevention (GPP)[8].

The relevant PPG's and GPP's are outlined below, further site specific details can be found in the Pollution Prevention Plan:

- PPG 1: General guide to the Prevention of Pollution;
- GPP 2: Above ground oil storage tanks;
- GPP 5: Works and maintenance in or near water;
- PPG 6: Working at construction and demolition sites;
- PPG 7: Safe storage – The safe operation of refuelling facilities;
- PPG 21: Pollution incident response planning;
- PPG 22: Incident response – Dealing with spills;
- CIRIA C692 (2010) Environmental good practice on site – 3rd Edition ;
- CIRIA C532 Control of water pollution from construction sites; and
- CIRIA C587 Working with wildlife.

[6] Section 9.5 of this document
[7] All PPG documents are available to view and download via the SEPA website: http://www.sepa.org.uk/about_us/publications/guidance/ppgs.aspx
[8] GPP documents are available via: http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/. Accessed 05/04/2017.

The PPGs outlined above will also be incorporated into any method statements prepared by Dragados, to be approved by SEPA.

In addition to the above PPGs, SEPA have produced a number of position statements and regulatory methods in relation to engineering works on or near water[9] as follows:

- WAT – SG – 29: Good Practice Guide – Construction methods
- WAT – SG – 31: SEPA Special Requirements for Civil Engineering Contracts for the Prevention of Pollution V2

Specific mitigation measures contained within these documents have been identified and incorporated into this HMP.

9.5.1.1 Environmental Clerk of Works

Prior to the start of any enabling works, an ECoW will be appointed to oversee and monitor the implementation of management and mitigation for the protection of habitats and species within and adjacent to the AHEP works. The ECoW will:

- Be affiliated to a relevant professional body (e.g. Chartered Institute of Ecology and Environmental Management (CIEEM));
- Have demonstrable ECoW and construction site experience;
- Be trained/experienced in flora and protected species surveys and mitigation; and
- Have demonstrable knowledge or pollution prevention and current environmental legislation and guidelines.

9.5.1.2 Toolbox Talks

The ECoW will deliver a toolbox talk to all construction and subcontractor staff. This will cover ecological features present within and adjacent to the site, relevant legislation and a summary of mitigation measures outlined in this HMP and the various species specific mitigation plans included in the CEMD.

9.5.1.3 Daily Assessment

The ECoW will undertake daily walkover assessments of the AHEP development area to review, and feedback to Dragados on the current status of ecological features. These surveys will cover the whole AHEP site but focus on areas where key construction activities are progressing.

These walkover assessments are to be logged and any notable findings recorded along with specific information including the location, species and pictures where

[9] SEPA. Engineering Guidance. http://www.sepa.org.uk/water/water_regulation/guidance/engineering.aspx. Accessed 10/01/2017

possible. These logs are to be maintained throughout construction twice a year to ACC Environmental Services.

Biological records will be submitted to the North East Scotland Biological Records Centre (NESBReC) twice a year by the ECoW.

The mitigation measures set out in this HMP are intended to minimise the risk of adverse effects on the habitats and species identified in Section 9.4.2. If new species are recorded during the daily assessments carried out by the ECoW, these may require additional mitigation measures to those that are currently listed in this plan. The walkover assessment log will be used in consultation with Scottish Natural Heritage (SNH) and ACC Environmental Services to determine the appropriate mitigation. An addendum to the HMP CEMD will be issued detailed such additional mitigation.

9.5.2 Mitigation in Relation to Species

9.5.2.1 General Protected Species Mitigation

The following general mitigation measures relate to all protected species and will be adopted by Dragados:

- If protected species are recorded during construction, all of the following emergency procedure must be adhered to:
    - All works, in the vicinity of the protected species are to stop immediately and the ECoW contacted;
    - The ECoW will review the situation and, depending on the sensitivity of the species encountered, install the relevant exclusion zone and timing;
    - Consultation with SNH and ACC will be undertaken, if required;
    - Mitigation measures additional to those already in place may be required;
    - Incident, outcomes and recommendations will be recorded; and
    - Works will only recommence following advice from the ECoW.
- Open excavations will be fenced overnight in accordance with Health and Safety procedures. A safe means of escape, such as a sloping plank, will be provided to allow mammals to escape from the excavation;
- An external assessment survey following the Bat Conservation Trust Guidelines (2016)[10] of the residential properties adjacent to the lighthouse will be undertaken from May 2017 by the ECoW. Results of these surveys may require additional mitigation e.g. bat activity surveys.

[10] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

9.5.2.2 Birds

To avoid any impacts to birds on site, Dragados will implement the following protocol:

- All tree and vegetation removal will be undertaken outwith the breeding bird season (March to August inclusive)[11, 12]. This will fully mitigate against the potential damage and destruction of active nests for breeding birds and juveniles;
- If vegetation clearance cannot be undertaken out with the breeding bird season, then all trees and vegetation must be checked thoroughly by the ECoW immediately prior to clearance works; and
- Should any active bird nests be found within, or directly adjacent to, the site during works, Dragados will cease work in the area immediately, or as soon as it is safe to do so, and contact the ECoW for a suitable course of action. A suitable exclusion zone will be installed around the nest, which may require works to move to a different part of the site until the ECoW has confirmed that the nest is no longer active (i.e. dependant young have fully fledged and left of their own accord).

Eider

To mitigate disturbance and provide additional foraging habitats for eider during the construction period, the following mitigation measures are to be incorporated. These mitigation measures are specific to eider as well as other birds utilising the area, further mitigation measures are as outlined in 9.5.2:

- Accropodes are to be designed (Section 9.5.2.3 Breakwaters) to encourage colonisation by marine life to offer suitable food source for eider duck;
- Vessel operators are to avoid rafts of eider and an exclusion zone has been established, with the coordinates provided in the Vessel Management Plan;
- Lighting on the breakwaters will be shielded where possible to reduce disturbance to eider; and
- Fences on the breakwater will reduce access to large predators.

9.5.2.3 Ecological Enhancement Features

The proposed AHEP will result in the loss of habitat for a variety of species including reptiles, invertebrates and birds. As described in the ES[1], the significance of these effects are predicted to be minor adverse or negligible in all cases, which does not usually require mitigation beyond standard good

[11] SNH (2016) Why Scotland's birds are important. http://www.snh.gov.uk/about-scotlands-nature/species/birds/scotlands-birds/. Accessed 31/03/2017
[12] RSPB. Protecting Birds from Development. https://www rspb.org.uk/Images/protectingbirds_wales_tcm9-308104.pdf. Accessed 31/03/2017.

management practices; however, in accordance with best environmental practice, biodiversity offsetting will be undertaken.

A number of ecological features that will benefit a range of wildlife are described in Sections 9.5.2.3. These will be incorporated into retained and newly-created habitat areas, and areas surrounding AHEP, following consultation with land and or building owners. All features will be designed by the ECoW and monitored post installation during the construction period. Post construction, management and monitoring of the ecological enhancement features will be undertaken by Aberdeen Harbour Board. The proposed locations of these features are presented in Appendix A.

Reptile Hibernacula

Establishment:

Reptile hibernacula will be installed across the site in enhanced and newly created habitats including in hedgerows and scrub. The size of the hibernacula will be designed to ensure longevity and reduce vandalism. Nine features will be provided across these areas of the site. A mixture of features suitable for reptile will include:

- Log piles – for reptile hibernation (3)
- Stone piles – for reptile hibernation (3)
- Bare substrate – for reptile basking (3)

Management:

Features will be subject to a monthly check by the ECoW during the construction phase to ensure they remain in place, are sufficiently stocked with appropriate material (e.g. logs, sand, and gravel) and have not been vandalised.

Invertebrate Houses

Establishment:

Invertebrate houses will be installed in suitable locations across the site, subject to the ECoW discretion, primarily in newly-created or retained habitats such as areas of wildflower meadow, scrub, tree lines and the sewage plant. Locations that are sheltered and sunny will be chosen. Consultation and agreement will be undertaken with SNH, ACC Environmental Services and with property owners prior to the boxes being installed. Approximately 16 invertebrate houses will be installed across the site during the construction phase of the development, with a range of the following house types recommended to be used:

- Wildlife World Bee and Bug Biome (4)[13]

[13] Example and specifications of Wildlife World Bee and Bug Biome can be found at http://www.wildlifeworld.co.uk/p/bee-bug-biome. Accessed 27/03/2017.

- Wildlife World Solitary Beehive (4)[14]
- Schwegler Wood-concrete Insect Nesting Aid (4) [15]
- Schwegler Clay and Reed Insect Nest (4)[16]

It is likely that the smaller and lighter weight wooden houses (Wildlife World) will be installed on trees, whilst the larger and heavier Schwegler boxes will be best installed against buildings.

The number of each invertebrate features provided above are recommendations, adjustments will be made by the ECoW to ensure that the most suitable features for the coastal environment are selected to ensure success and longevity. If, following consultation, ACC recommends that invertebrate houses are not suitable, or that the number isn't appropriate or required, this mitigation measure will not be pursued.

Management:

Insect houses will be subject to a monthly inspection by the ECoW during the construction phase. This is to ensure that they remain in place, have not been vandalised and check they are not causing damaging to the structures to which they are attached. Any boxes that have become loose or detached will be re-secured or relocated, as necessary.

Bird boxes

Establishment:

Bird boxes will be installed at key locations around the Girdleness lighthouse, Scottish Water pumphouse, residential dwellings to the north of the site, the sewage works located centrally and trees in surrounding area. Agreement with property owners will be sought prior to installation. Bird boxes will be positioned 3-5m high, with good-visibility, a clear flight line, and importantly away from the prevailing wind direction. The boxes will be durable and grey squirrel proof and made of Woodcrete for longevity. Bird boxes will be fitted using a length of wire inside a piece of hose or other similar. This will allow for easy removal if maintenance is required. The bird box should be firm and secure to its support, and only paced on trees that are robust and large enough to support bird boxes. A minimum of 20 bird boxes will be installed, including those able to support a variety of species, so an appropriate mixture of the following box types is recommended:

- 'Hole type' bird boxes (26-32mm hole) (10)
- Open fronted bird boxes (10)

[14] Example and specifications of Wildlife Solitary Bee Hive can be found at http://www.wildlifeworld.co.uk/p/solitary-bee-hive. Accessed 27/03/2017.
[15] Example and specifications of Schwegler Wood-concrete Insect Nesting Aid can be found at http://www nhbs.com/title/173135/schwegler-insect-nesting-aid-wood-concrete. Accessed 27/03/2017.
[16] Example and specifications of Schwegler Clay and Reed Insect Nest can be found at http://www nhbs.com/title/181090/schwegler-clay-and-reed-insect-nest, Accessed 27/03/2017

Management:

Boxes will be subject to a monthly inspection by the ECoW during the construction phase. This is to ensure that boxes remain in place, have not been vandalised and check that they are not causing damage to the structures to which they are attached. Any boxes that have become loose or detached will be re-secured or relocated, as necessary.

Breakwaters

Establishment:

Specialist accropode blocks will be used in the construction of the breakwaters. In time, these accropodes will be colonised by marine life to offer suitable foraging habitat for otter and eider duck. The following mitigation measures will be applied to maximise the habitat potential of the breakwaters:

- Accropode units will be enhanced through holes (dia 50-100mm) or grooves (20mm deep, 10mm wide, and 100mm long) at approx. 200mm spacing that will be added to the moulds the accropodes will be cast from. The provision of these features will increase the suitability of the accropodes for molluscs;
- During operation the breakwaters will not be kept free from marine growth, and no anti-fouling paints or coatings with biocidal effects will be used on any of the breakwater armour units; and
- Public access to the breakwaters will be prohibited, and the only human access will be by harbour staff and contractors for emergency or maintenance purposes. The fence will prevent access by large predators to the breakwater.

9.5.3 Notable Flora

The most recent survey undertaken by Biocensus[3] found no curved sedge, sea pea or oyster plant on site. A final walk over inspection of the site will be conducted by the ECoW prior to works commencing and at an appropriate time of year, to confirm that these species are not present.

Northern marsh orchid have been identified on site between Girdle Ness and Greg Ness headlands. Maintaining a healthy seed bank outwith the construction site will be crucial to recolonisation post construction. Therefore, to ensure the habitat remains viable for this population of orchids following the construction phase, mitigation and translocation recommendations will be implemented:

- Where feasible, disturbing work should be timed after orchids have set their seed (late summer). Some ground work could then be of some benefit by aiding dispersal and exposing fresh soil on the site fringes to be recolonised;
- The ECoW, Environmental Manager and Construction Manager will meet to discuss what areas can be protected prior to construction;
- Should areas of known high orchid density need be cleared, an attempt to translocate these orchids will be made. This would involve cutting areas of turf (30-40cm deep and up to 2 x 2m wide) to be transported to suitable

receptor sites. Small areas could be cut by hand and larger areas using a tracked 360° excavator with widest practicable bucket. Turf would need to be removed between November and March, when orchid tubers are dormant and flower spikes are still visible;

- St. Fittick's Park and Girdleness headland will be considered for the relocation of the orchids;
- Translocation of march orchids should not be undertaken between November and March;
- Surveys will be completed prior to translocation of marsh orchids, in area where they are to be moved, to ensure no other important plant species are harmed; and
- Post-translocation management and monitoring of these species will be undertaken by the ECoW during the construction period.

9.5.4 Terrestrial Invasive Non-Native Species

This section relates to terrestrial non-native species. Information relating to the management and mitigation of marine non-native species is included in the BsP.

Surveys to date have not recorded any invasive non-native species (INNS) such as Japanese knotweed (*Fallopia japonica*) or giant hogweed (*Heracleum mantegazzianum*) within or adjacent to the site. However, given the extent and duration of earthworks being undertaken colonisation by and subsequent spread of INNS remains a risk.

Under the Wildlife and Natural Environment (WANE) (Scotland) Act 2011[17], any person who plants, or otherwise causes to grow, any plant in the wild at a place outwith its native range is guilty of an offence. INNS and the risks they pose will be covered by the ECoW during toolbox talks. If INNS are reported, the following mitigation measures will be enacted:

- The ECoW will be contacted immediately upon discovery of INNS within or adjacent to the site;
- The area of infestation will be cordoned off and no works likely to disturb the vegetation will be permitted; and
- The ECoW, in consultation with the site manager, SEPA and SNH will draw up a specific management plan and method statement detailing mitigation to avoid committing an offence under the WANE Act.

Prior to starting works, all contractors shall provide a method statement to the ECoW detailing precautionary measures to be taken to prevent the spread of any non-native plants into the wild. Reference should be made to the Non-Native Species Code of Practice[18], if invasive species are found.

[17] The Wildlife and Natural Environment (Scotland) Act 2011. http://www.legislation.gov.uk/asp/2011/6/contents. Accessed 27/01/2017.
[18] Available from http://www.gov.scot/Resource/0039/00398608.pdf

The requirements to screen imported soils and materials for INNS is outlined in the Landscape Mitigation Plan CEMD and the Reinstatement Plan. However, there is no plan to import soil on to site as all soil will be stockpiled and reused.

9.5.5 Mitigation in Relation to Habitats

Mitigation measures for the protection and enhancement of habitats includes but is not limited to the following:

- Implementation of suitable sediment and pollution control measures as outlined in the Pollution Prevention Plan;
- Due care given to avoid damage to any trees retained within the final development. This includes the avoidance of compaction of the root zone. This should be in line with the recommendations in BS5837:2012, Trees in Relation to Design, Demolition and Construction;
- Any scrub species lost as part of the development should be replaced to provide habitat for passage passerines, as detailed in Section 9.5.6.4; and
- All plant species used within the landscaping proposals within St Fittick's Park (see Section 9.5.6) should be of Scottish provenance, particularly those which provide food and shelter opportunities for native invertebrates, birds and other species.

9.5.6 Habitat Creation and Enhancement

Habitat creation and enhancement has been listed as one of a range of strategies to mitigate the AHEP works in the Detailed Mitigation and Compensation Plan[19] (DMCP) (Appendix C).

Habitat creation and enhancement will principally be focused at St Fittick's Park (Category 1 of DMCP). The DMCP will build upon established habitats and be comprised of the following:

- Native woodland planting;
- Scrub and heathland planting;
- Creating greater ecological connectivity with suitable habitats offsite;
- Enhancement of dry and coastal heath;
- Maintain the open character of the landscape; and
- Enhancement of defunct native hedgerows.

[19] Arup (2016) Aberdeen Harbour Expansion Project Detailed Mitigation and Compensation Plan (DMCP)

9.5.6.1 Existing and New Native Woodland Planting

Objectives

- Develop pockets and belts of mixed broadleaved woodland with native species and a natural appearance; and
- Maintain healthy and safe trees to encourage structural habitat diversity, increase biodiversity, and provide visual interest.

Establishment

In areas where mixed broadleaved woodland is currently present within St. Fittick's Park, and where it will be reinstated within the central compound post construction, ground preparation works will be undertaken by contractors and monitored by the ECoW to aid efficient tree establishment. These works should not be undertaken during winter or in very wet or very dry weather conditions, so as to avoid soil structure damage and erosion. Care should be taken when cultivating close to already established trees so as not to damage their roost

Trees will be fitted with stakes/canes, ties and tree guards to protect from animal damage[20]. Further details of tree planting specifications are outlined in the Landscape Mitigation and Compensation Plan.

Management Operations (5 year period)

Following planting, AHB will work with ACC post construction to manage the trees. Management operations include:

- Weed controls, such as hand weeding, cutting, residual and spray herbicide applications, and mulch reinstatement to base of trees should be conducted when appropriate;
- Re-firm trees subject to frost heave or wind rock and straighten to an upright position;
- Annual application of slow release fertiliser and residual herbicide where appropriate;
- Inspection, adjustment and replacement as necessary of all stakes, ties and guards/shelters;
- Broken, damaged, dying or dead branches or trees should remain in situ as these provide suitable habitat for invertebrates;
- Pruning to remove diseased branches;
- Inspection for pests, vermin and plant diseases and implementation of remedial actions;
- Replanting of failed stock or redesign /re-specification of failed areas;
- Watering as required to field capacity, during the dry months; and

[20] For details of planting methodology see the Landscape Mitigation Compensation Plan

- Removal of litter.

Species

To include native, coastal tolerant and robust species. Approximately 75% broadleaves consisting of:

- Alder (*Alnus glutinosa*);
- Silver Birch (*Betula pendula*.);
- Hawthorn (*Crataegus* sp.);
- Ash (*Fraxinus excelsior*);
- Aspen (*Populus tremula*);
- Cherry (*Prunus padus*);
- Rowan (*Sorbus aucuparia*); and
- Whitebeam (*Sorbus intermedia*).

The remaining area is to be planted with approximately 25% conifers consisting of:

- Scots Pine (*Pinus sylvestris*);
- Larch (*Larix europaeus*); and
- Norway Spruce (*Picea abies*).

9.5.6.2 Coastal Path Cutting Regime

Objectives

Reduce encroachment of poor quality habitat into areas of diverse vegetation and maintain accessibility to the coastal path through a cutting regime. This will ensure the coastal path does not become over grown, allowing it to be reopened quickly following construction.

Establishment

All management operations will be undertaken by qualified contractors and monitored by the ECoW.

Management Operations (5 year period)

Management operations during the construction period include:

- Trim the edges of the coastal path twice in the summer at most, to ensure poor quality grassland does not encroach on the diverse vegetation and to clear footpath; and
- Removal of litter.

9.5.6.3 Species-rich Hedgerow

Objectives

Ensure successful enhancement of the existing defunct hedgerow adjacent to St Fittick's Road (south side) through establishment of new hedgerow planting to create a mixed hedgerow of native shrubs and occasional hedgerow trees and understorey.

Maintain healthy hedgerows to create wildlife corridors, increase biodiversity and compact physical and visual barriers.

Establishment

To successfully establish a hedgerow, linear trenches 450mm depth and up to 1m wide shall be excavated and backfilled with a gravel drainage layer and topsoil and organic matter. All weeds should be removed and locally sourced organic matter (such as compost or manure from local farms) should be spread over the soil and forked in.

Hedgerow planting will consist of native transplants, whips and occasional feathered standard trees and shrub species, planted either in linear trenches or in double staggered rows at 45cm apart.

The roots should be spread out and soil worked between them to ensure close contact. The hedge will be watered in after planting to field capacity, and the trench covered with approximately 100mm of mulch should be applied or linear mulch mats installed. Plants should be fitted with stakes/canes, ties and rabbit guards. All management operations will be undertaken by qualified contractors and monitored by the ECoW[21].

Management Operations (5 year period)

If relevant, ACC will be consulted prior to proceeding in order to coordinate the maintenance and management operations for the hedgerows within the development area. Due to the coastal environment of the AHEP site the hedgerow planting will need to be closely monitored for its longevity and success. The management operations include:

- Weed controls, such as hand weeding, cutting, residual and spray herbicide applications, and mulch reinstatement;
- Annual application of slow release fertiliser and residual herbicide where appropriate;
- Inspection, adjustment and replacement as necessary of all stakes, ties and guards/shelters;
- Inspection for pests, vermin and plant diseases and remedial actions;

[21] For details of planting methodology see the Landscape Mitigation Compensation Plan

- Formative and seasonal pruning for stem, foliage and flowering budwood;
- New hedgerow planting to be trimmed every 2-3 years in January/February. Once established after 4-5 years, the hedgerow will undergo a rotational, triennial cutting regime (i.e. every three years);
- Cut back to the previous year's growth once the hedge has reached its preferred height (taking cognisance of the breeding bird season);
- Extension or strengthening of fencing or other barriers where planting is becoming eroded trampled or damaged;
- Re-balancing of growth, removal of over-vigorous species;
- Replanting of failed stock or redesign /re-specification of failed areas;
- Watering as required to field capacity, during the dry months; and
- Removal of leaf litter from the base of hedgerows will be avoided.

Species

To include native species such as the following, species mix and specifications are further detailed in the Landscape Mitigation Plan Planting Schedule:

- Field maple (*Acer campestre*);
- Hazel (*Corylus avellana*);
- Hawthorn (*Crataegus monogyna*);
- Honeysuckle (*Lonicera nitida*);
- Blackthorn (*Prunus spinosa*); and
- Dog rose (*Rosa canina*).

9.5.6.4 Scattered Heathland and Scrub

Objectives

Establish informal pockets of native 'heathland' scrub planting and reinstate existing scrub habitat throughout the site to increase biodiversity, connectivity and provide a visual interest.

Establishment

Species of local provenance will be planted between November and March in clumps. Soil preparation techniques such as soil inversion, addition of sand, acidification of the soils through additives, and sowing seed from locally harvested brash will be undertaken in order to establish the 'heathland' scrub.

Weeding will be undertaken just prior to or immediately following planting and mulching of an area up to one metre around each plant will be undertaken to supress weeds and retain soil moisture. During establishment, scrub plants are vulnerable to animal damage and so will be protected using spiral guards or tubes.

All management operations will be undertaken by qualified contractors and monitored by the ECoW[22].

Management Operations (5 year period)

If required, ACC will be consulted prior to proceeding in order to coordinate the maintenance and management operations for the existing heathland and scrub within St. Fittick's Park. Management operations include:

- No intrusive management works will be undertaken during the bird breeding season (March to throughout August inclusive) and any berry bearing scrub will not be cut before January;
- Selective weed control through spot application and by hand pulling;
- Inspection, adjustment and replacement as necessary of all guards and tubes;
- Inspection for pests, vermin and plant diseases with remedial action taken where necessary;
- Cutting on a rotational basis after establishment to create diversity of structure; and
- Dead wood and scrub stumps should be left in situ to provide additional habitat for invertebrates, fungi and other species.

Species

To include native species such as the following, species mix and specifications are further detailed in the Landscape Mitigation Plan Planting Schedule:

- Hawthorn;
- Heather (*Culluna Vaulgaris*);
- Broom (*Cytisus scoparius*);
- Teasel (*Dipasacus fullonum*);
- Bell heather (*Erica cinerea*);
- Cross-leaved heath (*Erica tetralix*);
- Holly (*Ilex aquifolium*);
- Blackthorn;
- Bramble (*Rubus fruticosus*);
- Willow (*Salix sp.*);
- Elder (*Sambucus nigra*); and
- Gorse (*Ulex europaeus*)

[22] For details of planting methodology see the LMP

9.5.7 Land Use

The Environmental Manager or ECoW will identify areas within AHEP that are of greater ecological value and construction activities should be minimised in these areas so as to reduce any significant environmental effects. Beyond the Central Compound, there will be no construction within St. Fittick's Park.

9.5.8 Monitoring

9.5.8.1 Ecological Enhancement Features

The establishment and success of all Section 9.5.6 mitigation measures will be monitored throughout the construction process by the ECoW. Success will be determined at the ECoW's discretion (in discussion with SNH and ACC) and will be informed by undertaking monthly surveys investigating if and how newly created habitat features are being used by target species/ communities. In the event that created features are not performing the ECoW will determine if relocation or reconstruction of the habitat is necessary.

9.5.8.2 Eider

During the construction period, eider ducks will be monitored to assess the degree of disturbance. This is to be managed and/or undertaken by the ECoW. Monitoring is to be quantified through determining:

- Number/proportion displaced;
- Spatial extent of displacement (i.e. within the bay/to other locations around the headland/completely away from the site);
- Temporal extent of disturbance (i.e. how long it takes the birds to return to the area);
- Behavioural changes; and
- Whether key areas are used in spite of disturbance or birds are more reluctant to vacate certain areas (to help identify the key habitats selected by the birds). This should help inform any required mitigation.

Methodology

Eider survey methodology is outlined in Appendix B: Protected Bird Monitoring for Aberdeen Harbour Expansion Project.

9.5.8.3 Schedule 1 Bird Monitoring

It is prohibited by law to disturb birds listed on Schedule 1 of the WCA when they are breeding. The proximity of the East Tullos Burn wetlands and additional suitable nesting habitat to the site makes disturbance of Schedule 1 birds a possibility. In order to avoid this, the ECoW will monitor the wetland and surrounding area for the presence and breeding success of any Schedule 1 species.

Methodology

Details on Schedule 1 Bird methodology is outlined in Appendix B.

9.6 Otter Protection Plan

9.6.1 Introduction

As detailed in Section 9, an OPP plan is a listed condition in both the Marine Construction and Marine Dredging and Disposal Licence, and Schedule 2 of the Harbour Revision Order 2016. Section 9.6 of this document constitutes an OPP and as such discharges these conditions. This OPP will be adopted during construction of the AHEP.

In the absence of mitigation measures, construction activities on site could result in disturbance to otter (feeding areas and commuting routes) due to increased noise, vibration, lighting and visual effects.

9.6.2 Aim of the Plan

The OPP describes mitigation measures that will be incorporated into the detailed design of the scheme. These measures will provide protection for otter, shelters suitable for use by otter, foraging habitat and as far as practicable, areas along coastal corridors that will be affected by the construction and operation of AHEP.

The OPP follows the AHEP ES[1] and the Ecology Update Report[3] which highlighted the level of otter activity within and around Nigg Bay. In addition, this OPP has been developed following a check in November 2016 by a qualified ecologist on the otter signs noted within the Ecology Update Survey Report.

9.6.3 Information Sources

The OPP has been informed by the following best practice guidelines, including:

- Otters – Best Practice (SNH)[23];
- Otters – Mitigation (SNH)[24]
- Protected Species Advice for Developers – Otter (SNH)[25]
- Effects of Developments on Otters (SNH)[26]
- Otters: surveys and mitigation for development projects (Natural England)[27]

[23] SNH (2015) Otters – Best practice. http://www.snh.gov.uk/about-scotlands-nature/wildlife-and-you/otters/best-practice/. Accessed 01/11/2016.
[24] Otters – Mitigation (SNH). Available from: http://www.snh.gov.uk/about-scotlands-nature/wildlifeand-you/otters/mitigation/ [Accessed on 01/11/2016];
[25] Protected Species Advice for Developers – Otter. Available from: http://www.snh.gov.uk/docs/A1959316.pdf [Accessed on 21/02/2017]
[26] Effects of Developments on Otters (SNH). Available from: http://www.snh.org.uk/publications/on-line/wildlife/otters/effects.asp [Accessed on 01/11/2016];
[27] Otters: surveys and mitigation for development projects (Natural England). Available from: https://www.gov.uk/guidance/otters-protection-surveys-and-licences [Accessed on 01/11/2016].

- Otter Breeding Sites - Conservation and management (Liles, 2003)[28]
- Otters & Development (Northern Ireland Development Agency)
- Nature Conservation Advice In Relation To Otters. (Highways Agency, 2007)[29]

9.6.4 Legislation

Otter are a European Protected Species (EPS) and are protected under the conservation (Natural Habitat, &c.) Regulations 1996 (as amended). Under this legislation it is an offence to:

- Kill, injure, capture or harass an otter;
- Disturb an otter whilst it is occupying a structure/holt (underground den) or other place it uses for shelter or protection, or while it is rearing or otherwise caring for its young, or in any way that impairs its ability to survive or breed, or significantly affects the local distribution or abundance of otters;
- Obstruct access to an otter breeding site or resting place (e.g. holt or couch), or otherwise prevent their use; and
- Damage or destroy an otter breeding site or resting place, whether or not deliberate or reckless.

9.6.5 Baseline Otter Activity

Results from otter surveys undertaken as part of the ES[1], the Ecology Update Report[3] and the most recent in November 2016, reported a low level of activity within the development area.

Current use of the development area by otter appears to be occasional and opportunistic, rather than habitual. Two potential couches, each associated with a single, old spraint were identified, one in the north of the site and one behind the beach. A further four spraints and feeding signs were also recorded, not associated with potential shelter sites. If reported activity remains constant at this low level an EPS licence will not be required, as discussed and agreed with SNH.

Otter activity will be monitored by the ECoW as part of the ongoing species surveys and monitoring, as highlighted in Section 9.5.1.3. Daily checks for otter will identify whether any active places of shelter are likely to be affected by the works. Shelters will be classified as follows:

- Holt: Underground or other fully enclosed shelter (can be structures ranging from enlarged rabbit holes and cavities amongst tree roots to rock piles and manmade structures);
- Other place of shelter: Can be either a couch - an above ground semi-enclosed resting place (e.g. under overhanging river banks / tree root plates); or hover –

[28] Otter Breeding Sites - Conservation and management (Liles, 2003). Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough;
[29] Nature Conservation Advice In Relation To Otters. (Highways Agency, 2007). Design Manual for Roads and Bridges, Vol. 10, Section 4, Part 4: HA 81/99

a nest-like structures (0.3 -1 m in diameter) constructed from nearby vegetation or a depression in a stick pile or under a windblown tree.

The ECoW will review whether construction activities are likely to affect otter or shelters recorded and, if so, what mitigation options are available. A hierarchical approach to mitigation will be applied to any holt/other place of shelter that may be affected under the AHEP works, as detailed in Section 9.6.6.2. Construction teams will be advised of existing / new constraints, together with mitigation options by the ECoW.

9.6.6 Mitigation Measures

9.6.6.1 General Mitigation Measures

The following general mitigation strategies will be implemented across the development zone in order to avoid causing harm to, or disturbing otter:

- During normal working hours throughout the construction period the ECoW will be onsite to ensure that all environmental mitigation relevant to otter is delivered, and ensure compliance with otter legislation. During out of hours working, in the event of an emergency, the emergency procedure outlined in the PPP will be followed. The Shift Manager will call-in any environmental emergency to a designated responsible person, who will initiate a cascade of responses if necessary as detailed in the in the incident response plan;
- All works in proximity to waterbodies / watercourses must follow measures outlined in the CEMD to ensure their complete protection against pollution, silting and erosion as further outlined in the Pollution Prevention Plan;
- Where possible, construction compounds will be fenced off to minimise the risk of otter entering them. Excavations will also have an access ramp erected and secured in place to allow mammals escape if they fall in;
- Any temporarily exposed pipe system to be capped when contractors are off site to prevent otter from gaining access;
- Soil materials stockpiled in the site for an extended period of time will be inspected weekly to ensure no mammal burrows are present;
- Lighting on site will be positioned and directed to minimise intrusion and disturbance of river corridors. More information is provided in the Lighting Plan; and
- An emergency procedure will be implemented by site workers if otter are encountered. All work within 30m will cease as soon as it is safe to do so, and the ECoW will inspect the site and define mitigation (if required) in line with this OPP.

9.6.6.2 Emergency Procedure and Licensing Requirements

It has been agreed with SNH that an EPS licence will not be required for the AHEP if reported otter activity remains constant at its current low level. However, if ongoing surveys indicate that otter activity has increased, especially if evidence

suggests that the potential couches are in regular use, an application for an EPS licence to disturb otter will need to be made.

The following is the emergency procedure which will be followed by the ECoW in the event otter activity levels increase and active shelters are identified onsite:

- If otter are encountered. All work within 30m will cease as soon as it is safe to do so, and the ECoW will be contacted;
- A hierarchical approach to mitigation of avoid / protect and disturb / destroy will be applied to any holt / other place of shelter that may be affected under the Project works:
    - For active holts / other places of shelter identified within 30m of works (or 200m for breeding sites), an initial exclusion zone of either 30m (or 200m) will be marked on the ground using blue rope (or blue tipped canes and signs) to restrict work access. Site staff will be briefed of its purpose through a Toolbox Talk;
    - Works will be micro-sited, where possible outwith this exclusion zone;
    - In the event that the appropriate exclusion zone cannot be guaranteed, resumption of works will require an EPS licence to disturb otter from SNH.
    - Following the submission of a EPS licence, SNH will either allow the disturbance/ destruction of the holt with appropriate mitigation or will require that the holt/ shelter be protected for the remaining of the works;
    - If an EPS licence is granted, active holts / other places of shelter within 30m of long term works (or as assessed for breeding sites), which are to be retained will be separated from works by a suitable fence or screen. This will prevent access to the work area and minimise disturbance;
- If the proposed works could result in the destruction of a holt/other place of shelter a detailed mitigation plan will be required. This must be agreed with SNH (either through compliance with this OPP or through approval of a specific method statement) and only completed under an EPS licence. Destruction of holts/other places of shelter will only be undertaken as a last resort. It is highly unlikely a breeding shelter is present within the development area. However, if a breeding site is identified, no works will be completed within the protection zone for the initial 8-10 week period until the cubs are fully mobile (based on juvenile prints outwith the holt or using a camera trap);
- If the proposed works will result in the destruction of a holt, a detailed Method Statement, including provisions for the creation of an artificial holt, and providing an appropriate mitigation strategy and programme, will be submitted for the approval of SNH under an EPS licence;
- Any holt / other place of shelter subject to works under an EPS licence will be monitored during and after the works;
- Disturbance after completion of work can be minimised by maintaining as much tree and scrub cover around features suitable for otter shelters as

possible. This can be enhanced by planting additional thicket-type vegetation. The proposed limited planting schemes as discussed in the Habitat Management Plan may provide more cover for otter moving through the site, although given the nature of the proposals, the extent of additional planting will be necessarily limited; and

- A report will be sent to SNH and ACC detailing any disturbance and destruction works under an EPS licence.

9.6.7 Review Procedure

The HMP and OPP will be reviewed and updated on a quarterly basis, when new or amended information is available and in line with any change management procedures. All appropriate construction staff will be informed of any changes by the ECoW.

Appendix A

Habitat Management Plan Map

A3

Legend

- Development Boundary
- Hedgerow Planting
- Harbour Footprint and Temporary Construction Compounds
- Invertebrate Habitat
- Bird Box
- Bare Ground
- Stones
- Logs
- Woodland
- Scrub and Heath
- Balnagask to Cove LNCS
- Nigg Bay SSSI
- River Dee SAC

Issue	Date	By	Chkd	Appd
1	04-04-2017	NM	FM	ZC

Metres
0 150 300 600

ARUP

Scotstoun House
South Queensferry
EH30 9SE
United Kingdom
www.arup.com

Client
Dragados

Job Title
Aberdeen Harbour Expansion Project

Habitat Management Plan

Scale at A3
1:11,000

Job No	Drawing Status
253532	Issue

Drawing No	Issue
Appendix A	1

MXD Location

Appendix B

Protected Bird Monitoring and Recording Form

B1

Appendix removed as it contains confidential information. Will be provided separately to RSPB and SNH.

B2 Eider Recording Form

Contract	**Aberdeen Harbour Expansion Project**		**Project No:**		**Subject:**	**Generic Eider Survey Form**		**Date:**	**2017**
Surveyor:		**Date:**	/ /	**VP No.**		**Start time:**	:	**Finish time:**	:
High tide time:		**Low tide time:**				**Tide status during survey:**			
Sea state conditions (using sea state code):				**Noise levels** (using dec bel meter):				**Location of noise:**	
Cloud Cv (%)		**Visibility:**	0-1 / 1-2 / 2-10 / >10 (km)		**Rainfall / Snow / Hail:**	Dry / Intermitt. / Light / Mod. / Heavy			
Wind Dir:	N - NE - E - SE - S - SW - W - NW			**Wind spd (BS):**		0 1 2 3 4 5 6 7		**Temp °C:**	

Birds behaviour:	Hunting / foraging	Sleeping	Roosting (show location)	Dive / swim / fly away to avoid disturbance	Collision with vessel (give details)	Startled / looking up	Displaying	Loafing	Other (give details)

Construction underway during survey:	Piling	Dredging	Blasting	Breakwater construction	Concrete pouring	Human activity on shore	Vessle movements (give details on numbers and movements)

Any other details:

Generic Diver Evidence for Breeding
Confirmed Breeding
• A nest containing eggs or young is found
• An adult is seen carrying food to the young
• A used nest or eggshells found (occupied or laid within the survey period)
• Recently fledged young are found
Probable Breeding
• Presumed permanent territory through observation of territorial behaviour on at least two different days separated by a week
• Agitated behaviour/anxiety calls by the adults
• Courtship and display behaviour witnessed
• A pair of birds seen in suitable nestling habitat in the breeding season
Possible Breeding
• A bird is observed in April and/or May in possible nesting habitat

General Notes: Target species are eider duck. However record observations for other 'notable' species (e.g. UK BoCC Red List, Annex 1, Schedule 1 species). Follow issued survey guidance and use standard BTO recording codes and annotations on maps and forms (unless stated otherwise in survey methods). Map all walked routes and vantage points used.

Map No.	Target No.	BTO Code	No. Birds	Age (Ad/Jv)	Target Note No.		Breeding Status (confirmed/probable/ possble)	Nest Grid Ref.		Nest details (Shore type at nest, etc)	Record Notes (include any additional notes not recorded on map)
					GR X	GR Y		GR X	GR Y		

Appendix C

Detailed Mitigation Compensation Plan

Appendix D

Link to Other Plans in the CEMD

D1 Link to Other Plans

Mitigation measure	Responsible individual	Timescale	Other relevant sections of the CEMD	HMP section
Toolbox talks	ECoW	Delivered to all relevant staff and subcontractors prior to starting work on site. Updated as needed	• Otter Protection Plan • Marine Invasive Non-Native Species and Biosecurity Management Plan • Fish Species Protection Plan • Marine Mammals Mitigation Plan	9.5.1.2
Continued ecological monitoring	ECoW	Throughout the duration of works	• Otter Protection Plan • Fish Species Protection Plan • Marine Mammals Protection Plan	9.5.2.3
General site management (Fencing of work compounds, mammal escape ramps on excavations etc…)	Construction Manager reporting to the ECoW	Throughout the duration of works	• Otter Protection Plan • Marine Invasive Non-Native Species and Biosecurity Management Plan • Pollution Prevention Plan	9.5.1
Timing of vegetation clearance	ECoW/ Dragados	All vegetation clearance to be undertaken outwith March to August inclusive.		9.5.2
Habitat enhancement features	ECoW	Constructed during first year of works, monitored for at least a year post installation.	• Landscape Mitigation Compensation Plan	9.5.6
Orchid management/ relocation	ECoW in consultation with the Environmental Manager/ Construction manager	Works impacting orchids undertaken after August. Any translocation works to be undertaken between November and March	• Landscape Mitigation Compensation Plan	9.5.3
Invasive Species	ECoW	Monitoring undertaken throughout the duration of works	• Marine Invasive Non-Native Species and Biosecurity Management Plan	9.5.4

Mitigation measure	Responsible individual	Timescale	Other relevant sections of the CEMD	HMP section
			• Pollution Prevention Plan	
Native woodland Planting	ECoW in consultation with ACC Ranger Service and Environmental Services Team	Planting between November and March, implemented Post construction	• Landscape Mitigation Compensation Plan	9.5.6.1
Hedgerow enhancement	ECoW in consultation with ACC Ranger Service and Environmental Services Team	Implemented Post construction	• Landscape Mitigation Compensation Plan	9.5.6.3
Heathland enhancement	ECoW in consultation with ACC Ranger Service and Environmental Services Team	Implemented Post construction	• Landscape Mitigation Compensation Plan	9.5.6.4
Coastal cath cutting	ECoW in consultation with ACC Ranger Service and Environmental Services Team	Twice during the summer months	• Landscape Mitigation Compensation Plan	9.5.6.2
Eider duck monitoring	ECoW	Incidental records collected by nominated observer pre construction and throughout construction period		9.5.8.2
Schedule 1 birds monitoring	ECoW	Four surveys undertaken between April and June in each year of works.		9.5.8
Otter general mitigation	ECoW/ Environmental manager	From start of enabling works for duration of construction.	• Marine Invasive Non-Native Species and Biosecurity Management Plan • Pollution Prevention Plan	9.6
Otter emergency plan	ECoW/ Environmental Manager/ Nominated responsible person	From start of enabling works for duration of construction.	• Pollution Prevention Plan	9.6.6.2